

REMARKS

In the Office Action dated August 29, 2008, the Examiner requests the affirmation of a provisional election made during a telephone conversation to the Applicant's attorney. The Applicant affirms the election of the invention of cooling method of a metal part which includes claims 1-10. Claim 11 is cancelled.

Claims 1, 3-4 and 10 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. In particular, the Examiner objects to the phrase "without the steering." Regarding claims 3 and 4, the Examiner objects to the phrase "changing a liquid-level pressure of the cooling liquid." The aforementioned phrases have now been eliminated from claims 1, 10, 3 and 4.

Claims 1-5 and 10 were rejected under 35 U.S.C. §102(b) as being anticipated by Kazuo (JP 2000-239738). Claims 1-4 were rejected under 35 U.S.C. §102(b) as being anticipated by Altshuler (SU 815048). Claims 1-4 were also rejected under 35 U.S.C. §102(b) as being anticipated by Antonenko (SU 1470785).

Claim 1 has been amended to incorporate the paraphrased features of claims 2-4 in order to overcome the rejection under 35 U.S.C. §112. Claim 1 has also been amended to distinguish from the prior art. Multiple blades are vibrated up and down in a quenching apparatus disclosed by Kazuo (JP 2000-239738). In contrast, according to FIG. 1 of the present invention, the two oscillation devices 10 and the stirrer 20 are separately arranged in the cooling apparatus illustrated in FIG. 1, and the oscillating plates 11 perform horizontal reciprocal motions. In addition, in the cooling apparatus of FIG. 4, the pressure applied to the level surface is changed by introducing a gas. Introduction of a gas is neither disclosed nor suggested by Kazuo.

Altshuler discloses a vibrator 3 having an upper chamber which contains gas, but does not disclose introducing gas to the liquid 7. Further, claim 1 features: introducing a gas into the cooling liquid via a gas introduction pipe. Altshuler merely discloses a gas chamber in a vibration generator with a sealed

chamber. The gas is not introduced into the cooling liquid itself. Further, the gas is not introduced via a gas introduction pipe. Further, Altshuler does not show the vibration 2 moving in a reciprocating horizontal motion.

Antonenko discloses vertical oscillation of the casing 2 and does not disclose the introduction of gas. Therefore, claim 1 is now believed to be allowable with respect to the cited prior art.

Claims 6 and 7 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kazuo (JP 2000-239738). Claims 8 and 9 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kazuo combined with Saburo (JP 2003-286517). Claims 3 and 4 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kazuo combined with Motoshige (JP 05-017817).

Regarding claims 8 and 9, Saburo (JP 2003-286517) discloses the quenching method in which stirring by use of vibration and stirring of jet are combined, but does not disclose the step of stirring the cooling liquid AFTER the liquid film begins to be broken as featured in claim 8. This feature is supported and explained at paragraphs [0019] and [0032] in the subject specification. Further, Saburo does not disclose adjusting the intensity of the stirring and the direction of flow generated by the stirring according to the condition of the cooling liquid as featured in claim 9, which is explained in paragraph [0032]. Therefore, claims 8 and 9 are believed to include allowable subject matter.

Since independent claim 1 is believed to be allowable, the associated dependent claims 5-9 are also believed to be allowable.

Claim 10 has been amended to distinguish from the cited prior art. Claim 10 includes the step of applying horizontal oscillation. This method step is not shown or disclosed in the prior art. Therefore, claim 10 is believed to be allowable.

New claims 12-16 are added and contain features not shown or disclosed in the prior art. The feature of claim 12 is disclosed in paragraph [0060]. The feature of claim 13 is disclosed in paragraph [0049]. The feature of claim 14 is disclosed in [0057] and Fig. 4. The feature of claim 15 is disclosed in paragraphs

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[0059-0060]. Claim 16 includes the combination feature of claims 1 and 10. The new claims 12-16 are believed to be allowable.

This Amendment should place this case in condition for passing to issue. Such action is requested. If the Examiner feels that prosecution of the present application can be expedited by way of an Examiner's Amendment, the Examiner is invited to contact the Applicant's attorney at the telephone number listed below.

Respectfully submitted,

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